

## COMMERCIAL & MILITARY GRADES, SUB-SUBMINIATURE DOUBLE BREAK, SNAP-ACTION

### MIL-PRF-8805/76 (0.200 inches wide)

OTTO's B3-2XXXX series is a sub-subminiature switch that meets all requirements of MIL-PRF-8805/76. Designed to switch at least one million mechanical cycles, the B3 surpasses the requirements of the military in these categories: contact resistance less than 25mΩ, contact pressure, contact bounce and overall cycle life. For MIL-PRF-8805/76 requirements, B3-22141 has standard silver with gold contacts, SPDT double break two circuit (Form Z), solder terminals in thermoset case material. Gold plate contacts are available for non-military applications. UL recognized and CSA certified models available.

### MIL-PRF-8805/101 (0.156 inches wide)

For your really difficult projects, try OTTO'S B3 series. They meet the OTTO inspired MIL-PRF-8805/101 specification. Only 0.156" thick, think of all those extra 0.044" you can use in those tight ganged jobs. With the B3 series, you can get an extra pole in where only four MIL-PRF-8805/76s fit, with room to spare. Examine the characteristics. With the MIL-PRF-8805/101, the only thing you give up is the extra space the MIL-PRF-8805/76 takes. Cycle life, very low contact resistance, higher than normal contact pressures, minimal contact bounce...everything is exactly as provided by the MIL-PRF-8805/76 specification.

For MIL-PRF-8805/101 requirements, B3-11141 (PC pin) and B3-12141 (turret) have silver with gold contacts and SPDT double break (Form Z) contact. For commercial applications, a variety of contact forms, special forces and gold plate contacts are available. Most versions are also UL recognized and CSA certified.

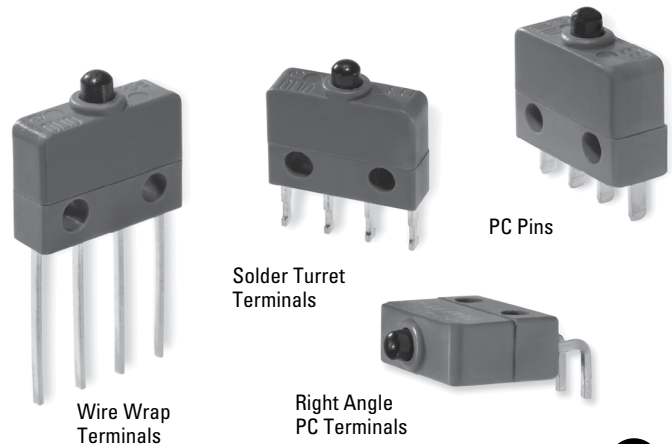
Great circuit versatility is available with either switch style. You have your choice of normally open (Form X) or closed (Form Y), 3 terminal (Form C) and 4 terminal (Form Z) SPDT double break.

## Features:

- Low level switching capability
- Less than 25mΩ contact resistance
- Up to 8 amps switching capability
- Button accepts actuation directly from a cam
- Choice of 0.156" & 0.200" wide models
- Choice of 6 standard terminal styles or wire leads
- Available in Commercial & Military grades
- UL recognized & CSA certified
- Qualified under MIL-PRF-8805/76 & MIL-PRF-8805/101
- RoHS/WEEE/Reach compliant

## APPLICATIONS

OTTO sub-subminiature switches are designed to meet all applications requiring MIL-PRF-8805/76 or MIL-PRF-8805/101 switches. Basic switches are designed for miniature spaces where cam or other limit actuators are used. In addition, toggle, pushbutton and lever actuators are available.



### Standard Characteristics/Ratings:

#### ELECTRICAL RATINGS:

| Circuitry     | Load       | Sea Level @ 28VDC | 70,000 feet @ 28VDC | Sea Level @ 115VAC, 60/400Hz |
|---------------|------------|-------------------|---------------------|------------------------------|
| SPST-NO or NC | Resistive  | 8A                | 8A                  | 8A                           |
| Form Z        |            | 5A                | 5A                  | 5A                           |
| Form C        |            | 5A                | 5A                  | 5A                           |
| Gold Contacts |            | 5A                | 5A                  | N/A                          |
| SPST-NO or NC | Inductive* | 5A                | 3A                  | 5A                           |
| Form Z        |            | 3A                | 2A                  | 3A                           |
| Form C        |            | 2.5A              | 1.5A                | 2.5A                         |
| Gold Contacts |            | 3A                | 2A                  | 3A                           |
| *L/R = 0.026  |            |                   |                     |                              |
| Lamp          |            | 1A                | N/A                 | 1A                           |
| Motor         |            | 5A                | N/A                 |                              |
| DWV           |            | 1050Vrms          | 400Vrms             |                              |

**Low Level:** Gold contacts 10mA @ 30mV

**Electrical Life:** 50,000 cycles at full load

**Mechanical Life:** 1,000,000 cycles

**Seal:** Unsealed

**Operating Temp Range:** -65°C to +125°C

**Operating Force:** 5 oz +/- 2 oz typical, 6 oz max, or 5 oz min options

**Release Force:** 1.5 oz min

**Operate Point:** 0.320 +/- 0.015 inches from mounting holes

**Overtravel:** 0.004 inches min

**Movement Differential:** 0.018 +/- 0.008 inches

#### MATERIALS:

**Case:** Thermoset, blue

**Cover:** Thermoplastic, blue

**Button:** Thermoplastic, black

**Terminals:** Brass with gold

**Contacts:** Stationary: Silver with gold plate  
Moveable: Silver with gold plate

**Terminal Hardware:** None provided

**Mounting Hardware:** None provided

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### CONTACT CONFIGURATIONS:

MIL-PRF-8805/76 and MIL-PRF-8805/101 specify single pole, double throw, double break (Form Z) contact configuration. Available and included in the military specifications are SPNO and SPNC double break, (Form X and Y). The MIL-PRF-8805/101 also specifies SPDT Form C.

### MILITARY APPROVALS

(MIL-PRF-8805/76 & MIL-PRF-8805/101)

Certain OTTO B3 models have been qualified to the military specifications for these parts. The following is a partial listing. Consult the Cross Reference that appears at the back of this catalog for the latest, complete listings.

| MILITARY NO.  | OTTO P/N | MILITARY NO.  | OTTO P/N |
|---------------|----------|---------------|----------|
| MS27257-1     | B3-26141 | M8805/101-011 | B3-15141 |
| MS27257-2     | B3-22141 | M8805/101-012 | B3-15142 |
| M8805/101-001 | B3-10064 | M8805/101-013 | B3-13141 |
| M8805/101-002 | B3-10065 | M8805/101-014 | B3-13142 |
| M8805/101-003 | B3-10066 | M8805/101-015 | B3-11131 |
| M8805/101-004 | B3-10067 | M8805/101-016 | B3-11132 |
| M8805/101-005 | B3-10063 | M8805/101-017 | B3-12131 |
| M8805/101-006 | B3-10072 | M8805/101-018 | B3-12132 |
| M8805/101-007 | B3-11141 | M8805/101-019 | B3-15131 |
| M8805/101-008 | B3-11142 | M8805/101-020 | B3-15132 |
| M8805/101-009 | B3-12141 | M8805/101-021 | B3-13131 |
| M8805/101-010 | B3-12142 | M8805/101-022 | B3-13132 |

## ORDERING INFORMATION:

### B3 Basic

Select the OTTO B3 basic switch to match your specific circuit and mechanical requirements. To order, specify your requirement using the OTTO Part Number Code shown below.

**Example:** B3-12141 is 0.156" wide, has 1/8" long turret terminals, 5 oz operating force, SPDT double break and silver/gold contacts (MIL-PRF-8805/101).

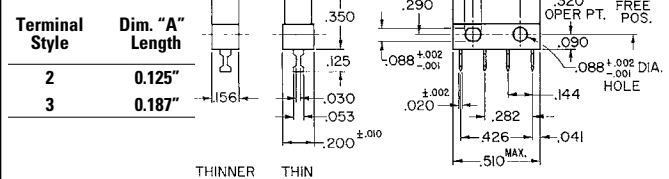
### B3 PART NUMBER CODE

**Bold Code** items signify conformance to MIL-PRF-8805 specifications.

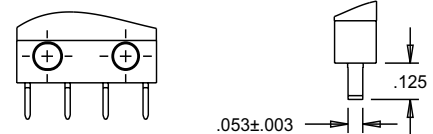
| Model                   | Terminal Style or Wire Length | Operating Force                       | Circuitry                 | Contact Material              |
|-------------------------|-------------------------------|---------------------------------------|---------------------------|-------------------------------|
| 1. 0.156" (MIL Grade)   | 1. <b>PC Pins</b>             | 1. 5 <sup>+3</sup> / <sub>-2</sub> oz | 1. SPNO-DB, Form X        | 1. Silver/Gold – High Current |
| 2. 0.200" (MIL Grade)   | 2. <b>Turret, 1/8" lg.</b>    | 2. 5 oz min                           | 2. SPNC-DB, Form Y        | 2. Silver/Gold – Low Current  |
| 3. 0.156" (Com'l Grade) | 3. <b>Turret, 3/16" lg.</b>   | 3. 6 oz max                           | 3. <b>SPDT, Form C</b>    |                               |
| 4. 0.200" (Com'l Grade) | 4. <b>Wire Wrap</b>           |                                       | 4. <b>SPDT-DB, Form Z</b> |                               |
|                         | 5. Right Angle PC Pins        |                                       |                           |                               |
|                         | 6. Solder ①                   |                                       |                           |                               |
|                         | A. With Wires 06.0" lg.       |                                       |                           |                               |
|                         | B. With Wires 12.0" lg.       |                                       |                           |                               |
|                         | C. With Wires 18.0" lg.       |                                       |                           |                               |
|                         | D. With Wires 24.0" lg.       |                                       |                           |                               |
|                         | E. With Wires 30.0" lg.       |                                       |                           |                               |

① Available on 0.200" wide models only.

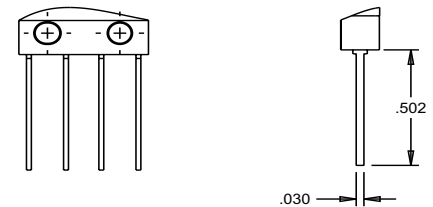
### Basic Switch shown with Solder Turret Terminals



### Printed Circuit Pin Terminal Style 1

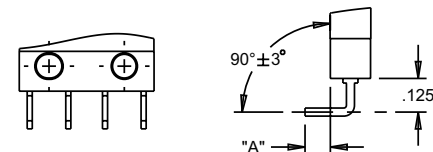


### Wire Wrap Terminal Style 4



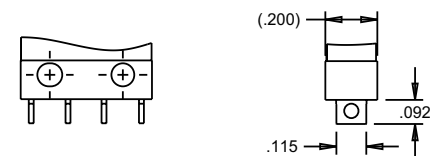
### Right Angle Printed Circuit Terminal Style 5

| SWITCH WIDTH | DIM. "A" |
|--------------|----------|
| .156         | .092     |
| .200         | .070     |



### Solder Terminal Style 6

Available on the 0.200" model only.

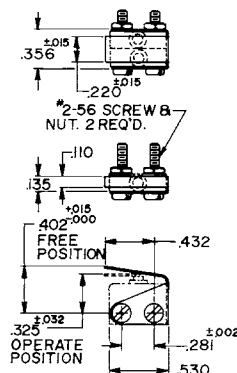


### Auxiliary Lever Actuators for B3



| Catalog Number | Number of Poles |
|----------------|-----------------|
| A1-101-02      | 1               |
| A3-102         | 2               |

Supplied with two 2-56 panhead screws, hex nuts and lockwashers.



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